



## MEDICAL AND RESEARCH ADVISORY COMMITTEE (MARAC)

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### **MARAC Statement: American Society of Hematology (ASH) Report on Exercise and SCT Crisis Risk**

**Feb. 5, 2025** - On January 30, 2025, the American Society of Hematology (ASH) published a **report** that found no evidence to support that physical activity can cause sudden death for individuals with sickle cell trait (SCT) without rhabdomyolysis (muscle breakdown) or heat injury. The article also found that there is not a high-level of evidence that sickle cell trait causes acute pain crises.

The ASH report, **No Scientific Link Found Between Sickle Cell Trait and Sudden Death**, brought together expert hematologists and forensic pathologists to take a closer look at the existing available research to answer two primary questions:

- 1.) Do uncomplicated acute pain crises occur in people with SCT?
- 2.) Can higher levels of physical activity result in sudden death in individuals with SCT?

The group conducted a multi-database search, identifying 1,474 citations. Only seven of those studies reported original data, included laboratory testing for SCT in individuals and addressed the two primary research questions.

Of these studies, none assessed acute pain crises in individuals with SCT compared to those with SCD and only one citation described death in individuals reported to have SCT, and this study of active-duty U.S. soldiers found that SCT was associated with a higher risk of heat-related-exertional rhabdomyolysis but not a higher risk of death. After the U.S. military made changes to its exercise policies, the risk of death was no different in individuals with SCT compared to individuals without SCT. There was no direct evidence of acute painful episodes in people with sickle cell trait.

The review had some limitations including a lack of high-quality, peer-reviewed direct evidence. Following the results of this study, ASH revised its position statement on SCT, which states that listing “sickle cell crisis” or “sickle cell trait” as a cause of death on an autopsy report for an individual with sickle cell trait is medically inaccurate and without medical evidence of causation.

### **WHY IS THIS IMPORTANT?**

Some lawyers and medical examiners have attempted to use sickle cell trait as a reason for death in, for example, college athletes who have died after rigorous training, or for individuals who have died while in police custody. This ASH statement is clear that judges should no longer accept this argument in court. This thoughtful evaluation represents a systematic review of the scientific evidence by hematologists convened by ASH (*Weeks et al. 2025*).

SCDAA’s Medical and Research Advisory Committee (MARAC) supports these findings and reports but recognizes that more research is needed. MARAC will continue to work with our experts as well as with our partners at ASH to provide clear guidance to the sickle cell community about sickle cell trait and how it relates to exercise and pain crisis. SCDAA continues to recommend that all athletes practice universal precautions to avoid the risk of rhabdomyolysis or heat injury.

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### REFERENCES:

Weeks LD, Wilson AM, Naik RP, Efebera YA, Murad MH, Mahajan A, McGann PT, Verhovsek M, Weyand AC, Zaidi AU, DeBaun MR, Donald C, Mitchell RA Jr. **Sickle Cell Trait Does Not Cause “Sickle Cell Crisis” Leading to Exertion-Related Death: A Systematic Review.** *Blood.* 2025 Jan 30;blood.2024026899. doi: 10.1182/blood.2024026899. Epub ahead of print. PMID: 39882975.

Lichtsinn, H. S., Weyand, A. C., McKinney, Z. J., & Wilson, A. M. (2021). **Sickle Cell Trait: An Unsound Cause of Death.** *The Lancet*, 398(10306), 1128-1129.

Mack AK, Bercovitz RS, Lust H. edited by Lemonick MD. **Some Medical Examiners Say Sickle Cell Trait Causes Sudden Death—They’re Wrong.** *Scientific American* June 20, 2021.

LaForgia M, Valentino-DeVries J. **How a Genetic Trait in Black People Can Give the Police Cover.** *New York Times.* May 15, 2021.

Thogmartin JR et al. **Sickle Cell Trait-Associated Deaths: A Case Series with a Review of the Literature.** *J Forensic Sci.* 2011 Sep; 56(5):1352